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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,035	07/15/2003	William Paul Mazotti	NSC1P271/P05589	1188
22434	7590	09/07/2006	EXAMINER	
BEYER WEAVER & THOMAS, LLP			SONG, SARAH U	
P.O. BOX 70250			ART UNIT	
OAKLAND, CA 94612-0250			PAPER NUMBER	
			2874	

DATE MAILED: 09/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/621,035	Applicant(s) MAZOTTI ET AL.	
	Examiner Sarah Song	Art Unit 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21,25-28 and 32-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-21,28,32-35 and 37 is/are allowed.
- 6) ☒ Claim(s) 25-27 and 36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's communication filed on June 22, 2006 has been carefully considered and placed of record in the file. Claims 1-6 are amended. Claims 22-24 and 29-31 are canceled. Claims 32-37 are new. Claims 1-21, 25-28 and 32-37 are pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 25, 27 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (U. S. Patent 6,821,027 previously relied upon) in view of Giboney et al. (U. S. Patent 6,318,909 previously relied upon).**

4. Regarding claims 25, 27 and 36, Lee et al. discloses an opto-electronic module having an optical port and an electrical port comprising:

- a first substrate 146 having electrical traces 202, a port end, and an interior end;
- an opto-electronic device 124 attached to and electrically connected to the first substrate wherein the opto-electronic device serves as the optical port;
- a second substrate 166 having electrical traces (i.e. PCB), the second substrate having a port end and an interior end, wherein the port end forms the electrical port for electrically connecting the opto-electronic module with an external electrical device; and
- an intermediate substrate 148 containing a plurality of electrically conductive traces (i.e. stacked interval of the silicon rubber and the conductor...formed with a pitch of around

Art Unit: 2874

100 μm), wherein the intermediate substrate connects the electrical traces within the first and the second substrates, wherein a thickness of the intermediate substrate separates the height of the optical port with respect to the height of the electrical port by a desired distance.

The intermediate substrate is sandwiched between the second substrate and the first substrate.

Therefore, in light of the stacked interval of the silicon rubber and the conductor being sandwiched between the first and second substrates, the electrical lines run through the intermediate substrate 148 so to electrically connect electrical traces of the first substrate with the electrical traces of the second substrate thereby enabling electrical connection between opto-electronic device port end of the second substrate. See also column 8, lines 40-59.

5. Lee et al. does not expressly disclose the claimed opto-electronic device.
6. Giboney et al. discloses an opto-electronic device comprising:
 - a semiconductor chip package and other electronic devices mounted to the first substrate at 92;
 - a support block 29 (or 129) having a first face and a second face that are angled relative to one another with electrical traces that extend from the first face to the second face wherein the first face of the support block is mounted on the chip package so that chip electrical contacts are electrically coupled to associated traces on the support block (column 7, lines 21-50); and
 - an optical device package 32 mounted on the second face of the support block, the optical device package having at least one active facet thereon and having

Art Unit: 2874

electrical contacts that are electrically coupled to associated traces on the support block.

7. Lee et al. and Giboney et al. are analogous art as pertaining to opto-electronic modules.

8. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the opto-electronic device of Giboney in the device of Lee et al. for the purpose of providing direct communication between the device and the fiber, thereby improving loss characteristics of the device.

9. **Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. in view of Giboney et al. as applied to claim 25 above, and further in view of Hargis et al. (U.S. Patent 6,792,171 previously relied upon).**

10. Regarding claim 26, Lee et al. in view of Giboney et al. does not expressly disclose that the intermediate substrate is suitable for transmitting differential signals between the first and second substrate.

11. Hargis et al. discloses a flex connector 18 that is suitable for transmitting differential signals between a first and second substrate. See column 3, lines 47-55.

12. Lee et al, Giboney et al. and Hargis et al. are analogous art as pertaining to opto-electronic modules comprising flex connectors.

13. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the electrical connector of Lee et al. such that it is suitable for transmitting differential signals as taught by Hargis et al.

14. One of ordinary skill in the art would have been motivated to provide the flex connector that is suitable for transmitting differential signals in order to ensure signal quality.

Art Unit: 2874

Allowable Subject Matter

15. Claims 1-21, 28, 32-35 and 37 are allowed.

16. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record does not disclose or reasonably suggest, either alone or in combination, the module as recited in claims 1, wherein “a semiconductor chip package...mounted...directly on the top surface of the first substrate” and “a support block for supporting an optical device package...wherein the first face of the support block is mounted on the top surface of the chip package”. Claim 37 recites similar limitations. Claims 2-21, 28 and 32-35 are allowable as being dependent upon claim 1.

Response to Arguments

17. Applicant's arguments filed June 22, 2006 have been fully considered but they are not persuasive. Regarding claims 25 and 27, Applicant states that the prior art of record do not teach or suggest “an intermediate substrate containing a plurality of electrically conductive traces, wherein the intermediate substrate connects the electrical traces within the first and the second substrates, wherein a thickness of the intermediate substrate separates the height of the optical port with respect to the height of the electrical port by a desired distance”. Examiner respectfully disagrees. The rejection has been clarified to point to the relevant portion of Lee et al. that discloses the plurality of electrically conductive traces (i.e. stacked interval of the silicon rubber and the conductor). Furthermore, the thickness of the substrate 148 inherently separates the height of the optical port with respect to the height of the electrical port by a desired distance. Regarding Applicant's statement with regard to “a stable separation distance”, the feature is not recited in the rejected claim(s). Although the claims are interpreted in light of the specification,

Art Unit: 2874

limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

18. Furthermore, Applicant states that claim 25 was rejected by Lee alone. Examiner respectfully disagrees. Claim 25 was rejected as being unpatentable over Lee et al. in view of Giboney et al. Paragraph 42 of the previous Office Action was directed toward the limitations of claim 25, which also provided basis for claim 27. Paragraph 43 of the previous Office Action was directed toward the further limitation of claim 27. Paragraph 44 of the previous Office Action was directed toward the difference between Lee et al. and the claimed invention. Paragraph 45 of the previous Office Action was directed toward the teaching of Giboney et al. that remedied the deficiency of Lee et al. as noted in Paragraph 44. Paragraphs 42-47 of the previous Office Action were preceded by Paragraph 41, which clearly indicates that claims 25 and 27 were rejected as being unpatentable over Lee et al. in view of Giboney et al., and not Lee et al. alone.

Conclusion

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

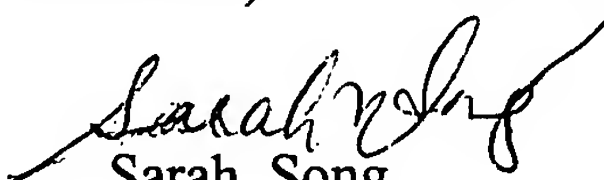
Art Unit: 2874

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah Song whose telephone number is 571-272-2359. The examiner can normally be reached on M-Th 7:30am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on 571-272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Sarah Song
Primary Examiner
Art Unit 2874